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ABSTRACT

In spring 1992, American River College, in California, began a Beacon College project to involve students in the life of the college through the implementation of a Peer Assisted Learning program. In the program, the college established semester-long collaborative study groups in selected math and science classes. Prior to the semester, faculty selected students who had successfully completed the courses to become learning assistants (LAs). LAs were trained in tutoring and collaborative techniques and worked an average of 6 hours per week, spending 3 hours with their collaborative groups, 2 hours preparing, and 1 hour in weekly meetings with faculty. In implementing the project, problems were identified with respect to student attendance at group meetings, room assignments, compensation for the LAs, and making sure that LAs acted as facilitators rather than mini-lecturers. To assess the project, formative evaluations were conducted by using focus groups conducted among students and faculty at the end of the first two semesters. These evaluations indicated that faculty felt that the LAs helped improve performance among students in their group, LAs reported that they had improved their knowledge and skills in the subject area and felt more connected to the college, and students indicated that they felt a greater sense of competency and connection with instructors. Appendixes contain detailed evaluation data, background information on the project, and a Beacon College Project Director questionnaire. (TGI)

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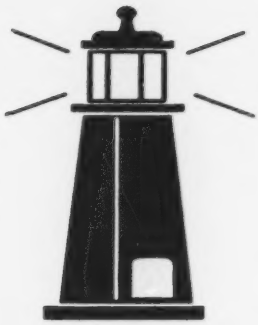

Beacon Project

Student Catalyst Program: Peer Assisted Learning

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August 1994

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American River College
Beacon Project
Student Catalyst Program: Peer Assisted Learning

Final Report
August, 1994

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INTRODUCTION

In the spring of 1992, American River Collage was named a Beacon College by the Commission on the Future of the Community College of the American Association of Community Colleges.

The project the college submitted was directed at the broad goal of "involving commuter students in the life of the college," one of the recommendations of **Building Communities: A Vision for a New Century** the report written by the Futures Commission.

This is the final report of our two-year Beacon Project, Student Catalyst Program: Peer Assisted Learning. The project was an outgrowth of the college's Student Involvement program, its focus on "building community" and the research of Dr. Uri Treisman at the University of California at Berkeley.

Ten northern California community colleges were Beacon Associate Colleges for this project, and most are now developing some form of peer-assisted collaborative learning.

The ARC Beacon Project, which targeted at risk students in selected math and science classes, had an impact far beyond what was originally envisioned. The involvement of over 800 project students in the life of the college, with other students and with faculty has been impressive. Equally impressive has been the success rate of these students.

We are delighted that the college has received a grant from the California Community Colleges Fund for Instructional Improvement to expand the project into new disciplines and to pilot the project at our sister college, Sacramento City College.

Finally, we wish to thank the many people who made this project a success, starting with former ARC president Queen Randall, who gave it both moral and financial support. In addition, we thank the Beacon faculty, who put in many hours helping us refine the model and implement the project, the Beacon trainers, who worked closely with the Learning Assistants helping them develop and polish their skills, the Beacon researchers who helped us measure our success, the support staff who helped in immeasurable ways, and, finally, the students, without whose enthusiastic support this project would not have had such fine results.

Nancy Reitz and Sharon McCuen
Project Directors
American River College
August, 1994

DESCRIPTION OF THE PROJECT

Beacon projects are designed to implement the recommendations in **Building Communities: A Vision for A New Century**, a report of the Commission on the Future of Community Colleges. American River College's Beacon Project focused on the objective of "involving commuter students in the life of the college" by establishing semester-long, collaborative study groups in selected math and science classes with high attrition rates.

The Beacon program consists of the following components: participating faculty, training faculty, learning assistants (LA's), students from selected classes, the project director and support staff who arrange room assignments and process paperwork.

Participating faculty are chosen the semester prior to implementation on the basis of both their interest and teaching load of approved classes. Recommended classes are those gateway classes with high attrition rates which students need as they progress towards their majors. These faculty then select learning assistants who have successfully completed the class with an A or B grade and who show promise in being able to work with their peers. Training faculty conduct both the preliminary training in tutoring and collaborative techniques as well as the monthly meetings of the LA's.

Beacon learning assistants work an average of six hours per week. This is divided into three hours of meeting time with their collaborative groups outside of classtime, two hours of preparation time and one hour of meeting time with their instructor. In some chemistry classes the three hours of student meeting time is divided into one hour of working in the corresponding laboratory and two hours of outside time. Although the project did not originally provide for compensation for preparation time for the LA's, feedback from them after the first semester indicated their need for such time. They use this prep time both for reviewing material and for preparing quizzes and some supplemental problems. Instructor meeting time has also proved to be invaluable both for the instructors and for the LA's. Strategies on the content, techniques for providing for meaningful collaborative experiences, feedback on individual students as well as discussions regarding concerns and problems faced by both the LA's and the instructors are all topics for these meetings. In addition to the weekly six hours, the LA's have six hours of preliminary training (prior to the beginning of the semester), four monthly meetings (each for 1 1/2 hours) and must enroll in a one-unit self-paced tutoring class (about 12 hours).

Student selection for the groups varies according to the instructor. Group size ranges from 5 to 12 students. In most cases the instructors have opened the groups to any interested students. In some large classes in which there are not enough learning assistants to meet the needs of the whole class, students must be limited to truly at-risk students in the class. In any case at-risk students are highly encouraged to make a commitment to the program.

The collaborative sessions meet outside of classtime and are facilitated by the LA who encourages the students to help other students in the group. In most cases supplemental work designed to help struggling students master basic concepts as well as stretch the most advanced students to reach beyond is developed by the classroom instructor. Feedback from the LA's has been very helpful in designing these materials. During the actual meeting times, the LA's are encouraged to break their groups into small groups of different sizes ranging from pairs to three or four for the collaborative work. Stronger students can be paired with weaker students. If at all possible the students do the talking, with the LA facilitating. Doing homework from class is highly discouraged, however, the student participants do bring in questions from lecture and lab. Rooms are chosen which have black or white boards and if possible, are appropriate in size to the group.

During the first two years of the project the following classes have been targeted:

Math

Elementary Algebra
Intermediate Algebra
Precalculus
Calculus

Chemistry

Freshman Chemistry
Preparatory Chemistry
Introductory Chemistry
Nursing Organic Chemistry

Biology

Introductory Bio

PROBLEMS AND SOLUTIONS

During the course of this project, numerous problems have arisen. Most of the solutions have evolved through discussions with and among the varying participants including the instructors, directors, LA's and college staff.

The most significant problem during the first semester of the project was student attendance throughout the course of the semester. Since one of the important goals of the project is community building, it is essential that students attend the sessions faithfully. After much discussion among the faculty, it was decided that during the first semester students would take responsibility for their own attendance. By semesters end many faculty reported that the attendance was very irregular in some cases. After that most faculty offered some "carrots" to encourage student attendance. This ranged from giving extra credit, to replacing quiz scores, to replacing an exam score and in some cases requiring a collaborative project in which Beacon work could be used to fulfill it. These carrots have really taken care of the attendance problem for the most part. As an example of how instructors might use this, the grade on the replaced exam might consist of prorated attendance, participation in collaborative work (as determined by the LA's and student), a notebook of supplemental work completed in the group and perhaps a student journal of what has been learned in each session. In a few cases the Beacon project was required and this proved to be a gigantic problem for students who could not come those additional hours as well as for the LA's with very large groups.

Room assignments have also been difficult. When scheduled sessions occur during the busiest time of day, there are very few rooms available. Our solution has been to work collaboratively with the instruction office who assigns rooms after each learning assistant makes a request for the day, time and group size.

The most expensive aspect of this project is the compensation for the learning assistants, thus, this is the greatest problem in continuing the project. Aside from financial compensation, our learning assistants have suggested parking privileges, priority registration and most significantly honors credit. We are pursuing the honor's credit (rather than pay) actively at this time. Currently, our college is using some of its one-on-one tutoring monies to fund Beacon-like groups. In addition, we are pursuing avenues for collecting ADA apportionment for the groups (the means by which the college collects state funds).

Busy faculty are concerned about the time commitment on their part to the project. Without a doubt it does take time to set up the groups, develop supplemental materials and meet with the LA's. However, in return student retention has improved dramatically, the number of more trivial questions by students has dropped and feedback into the teaching-learning loop has improved significantly. These tradeoffs have made the program more than worthwhile to many faculty. Some certainly will not be interested no matter what.

Lastly is the problem with how the LA conducts the groups. The purpose of these groups is to build community, develop strategies which promote long-term student success and have students help both themselves and other peers to learn. Thus, it is essential that the LA's act as facilitators of learning, not mini-lecturers! Both the training faculty and classroom instructors must be constantly vigilant on how to promote a facilitator role on the part of the LA's. This takes constant work throughout the semester.

EVALUATION

Both formative and summative evaluation processes were used to assess the Beacon project in terms of the objective: to involve commuter students in the life of the college. We also collected data to test our hypothesis that this involvement would lead to greater student success in the classroom.

The formative evaluation was conducted by using focus groups at the end of the first two semesters and by collecting anecdotal information from students and faculty. In addition, regular meetings were held with project staff and Learning Assistants to discuss problems and work on solutions. Finally, Dr. Uri Treisman spent a day with our project staff and representatives of the associate colleges. His input was used as an evaluative measure. Summative evaluation included analyses of student success rates for the last three semesters.

At the conclusion of the first and second semesters, focus groups were conducted with project faculty, learning assistants and students in the study groups. The focus groups were conducted by the college's research staff and an external evaluator.

At the end of the first semester, we learned that the faculty felt the learning assistants had brought students in the groups to an improved level of course performance, with some students making remarkable gains while others remained at a low performance level.

We learned that the Learning Assistants had improved their knowledge and skills in the subject area and felt more connected to the college.

We learned from the students in the groups that the tutoring sessions were helpful, that they felt a greater sense of competency and that there was more involvement with classmates leading to a better social climate and a sense of social connection. There was also a greater sense of connecting on a personal level with instructors.

From the focus groups conducted at the conclusion of the second semester we learned from the faculty that the Learning Assistants were consistently involving the students in the groups in active learning, that there was a high level of commitment to the program on the part of both Learning Assistants and students in the groups, and that the program helped build the confidence of the students in the groups and helped improve retention. We were also told by faculty that the participation of the students in the group sessions were freeing up office hours so that instructors could spend more time with students who needed more one-on-one contact with the instructors.

The Learning Assistants reported they had gained a greater sense of community with the college, better interpersonal and communication skills, and increased knowledge of the course material. The Learning Assistants also identified what became the major problem of the project during the first year: attendance in the study groups. (This was also identified by project faculty as a major problem during the monthly meetings.) We learned that even though students were supposed to make a semester-long commitment to participating in the group, in fact, some tended to come sporadically, often just before a test or quiz.

We learned from the students in the groups that the project was indeed helpful. Four out of five math students felt they would have dropped a full grade or more without the Beacon project. Some five percent of the chemistry students felt they would have dropped a full grade and 28 percent felt they would have dropped half a grade.

Problems identified in the meetings with students and faculty included the need to start the project earlier in the semester (second week rather than fourth week) in order to improve the retention of a larger percentage of students and locating rooms for the study groups to meet. Attendance continued to be a persistent problem. And, Dr. Treisman suggested that larger groups would be advisable (from 6-8 to 12-15).

In summary, we learned from the first year evaluation that the project was indeed meeting the goal of increasing the involvement of students in the life of the college and that the students were being more successful. We also identified three major problems: high attrition in some groups, the group size was often too small to be truly collaborative, and difficulty in finding meeting places for the groups.

Modifications were made during the second year of the project based on these findings. The project was organized so that the study groups would start meeting during the second week of the semester. The assignment of rooms was taken over by administration and expedited to accommodate the second week start. Group size was enlarged to 6-12 students. And instructors individually developed a variety of incentives for students to actively participate and meet the full semester requirement of the project (see page four of this report).

The modifications made during the second year significantly improved the project. Regular meetings with project faculty and Learning Assistants gave good feedback on the positive results of the changes. In particular, attendance improved significantly the second year based on the incentives offered by faculty.

In addition to the qualitative information used to evaluate the project, data was collected and analyzed by the college research team to assess the affect of the project on student success. For each course and for each instructor, the final grades of Beacon and non-Beacon students were analyzed for three semesters (the first semester was omitted because the project was still in the design phase). Student success was defined as receiving an A, B or C or Credit grade in the course. The results were stunning.

In nearly all courses and for all instructors, the Beacon students outperformed the non-Beacon students and the differences in the success rates were highly significant. For example, for the fall of 1993, the overall success rate of the students in the Beacon project was 78.6 percent; the success rate for other students in the same classes was 50 percent. In the spring of 1994, the overall success rate of Beacon students was 84.4 percent; for the non-Beacon students it was 65.5 percent.

Final results by discipline showed that the project was most successful in chemistry classes with Beacon students outperforming non-Beacon students by 26 percent. In math, Beacon students outperformed non-Beacon students by 23 percent and in biology, the difference was 18 percent. In all disciplines, Beacon students outperformed non-Beacon students by 26 percent.

Success rates by ethnicity are equally impressive. In fall of 1993, the success rate of non-white Beacon students was 76.5 percent compared to a success rate of 42.3 percent for non-white non-Beacon students.

The charts in the appendix give detailed information on success rates, including by gender, by ethnic background and by discipline.

UNEXPECTED SPINOFFS AND ANECDOTAL REPORT

Students have frequently reported that the support developed in the groups has been of utmost benefit. They continue to sign up for classes together in many instances after they leave the Beacon program and can be seen throughout the campus studying together in the library, at outside tables, at the computer center and at the cafeteria.

Beacon students have gone on to become Beacon Learning Assistants in future classes. Beacon LA's have taken other classes where they become Beacon participating students and then help facilitate the groups. Several of the LA's have reported that they are now considering teaching as a career which they had never thought of before. The LA's have consistently stated that their conceptual, quantitative and study skills have improved substantially as they worked with the groups.

The Beacon groups consisted of racially integrated groups; these diverse groups have continued to interact academically and socially in many cases.

Many of the underrepresented students who were Beacon participants have gone on to become MESA/CCCP (Mathematics, Engineering and Science Achievement/ California Community College Program) students.

The Beacon project gives students a nonthreatening means of providing feedback to the instructors. Student comments on their needs can be taken to the classroom instructors by the LA's. Assessment activities can be frequently used in these small groups even though the lecture class may consist of over 100 students in total.

Faculty came together from a variety of disciplines with the opportunity to discuss teaching strategies as well as problems. There are numerous examples of faculty collaborations which were not developed previously. Some of these in turn have resulted in successful grant applications for the college.

Here are a few stories which illustrate the personal side of student learning and success.

> *In one group, one member had a serious problem with a pregnancy which resulted in a miscarriage and the missing of two weeks of work. Her group members as well as class members encouraged her to continue, took her the missing work, helped teach her the material and then worked with her in lab to enable her to complete the missing lab work. She continued in the class and proceeded to earn a B grade.*

> *Several of our LA's in chemistry reported that their own study skills and chemistry problem solving skills improved substantially. At least three of them have won freshman chemistry awards. They have gone on to win other scholarships and have been accepted in top schools throughout the country.*

In one chemistry class, the Beacon interactions resulted in native students staying after class to teach non-native students American slang.

One chemistry LA reported that his participating students presented him with an engraved plaque as a sign of their appreciation. He was very moved and commented that the plaque was more meaningful to him than any of his many military awards

Several of our students have made Beacon presentations before our Board of Trustees and in state-wide conferences. These public speaking skills have enhanced their own self-esteem.

ASSOCIATE COLLEGES

Our Beacon Project had 10 Associate Colleges in the northern California region. The role of the Associate College was to assist us in developing the model, to receive all materials developed in the project and to replicate the model, if feasible.

Three meetings were held with the Associate Colleges: October, 1992; February, 1993 and May, 1994. Each meeting featured reports by the Beacon project staff and students and discussion sessions with the associate colleges.

A special feature of the February, 1993, meeting was the participation of Dr. Uri Treisman, whose work was in part the inspiration for the project. Dr. Treisman, who works both with the University of California at Berkeley and the University of Texas at Austin, discussed his work in improving the success of minority students in calculus classes through the use of collaborative groups. Dr. Treisman's comments helped us refine our project (for example, we increased the size of the groups the following year) and gave us a good perspective on peer assisted learning around the country. A videotape of Dr. Treisman's talks and discussion was made for each Associate College.

Each of the meetings with the Associate Colleges was upbeat; our "classroom feedback" informal evaluations were also enthusiastic and supportive. At our last meeting with the Associate Colleges we learned that half (five) are replicating the project in some fashion. Two others hope to initiate one, if they can obtain funding.

The meetings with the Associate Colleges were good vehicles for sharing ideas and information about the project. We did face one major problem in connecting with the right person on each campus since this project cuts across disciplines and across support programs, and because of staffing changes.

The Associate Colleges were:

Butte Community College
Cosumnes River College
Lake Tahoe Community College
Modesto Junior College
Napa Valley College
Sacramento City College
San Joaquin Delta College
Sierra College
Solano Community College
Yuba College

PLANS FOR THE FUTURE

Based on the initial success of the Beacon Project, the project staff submitted a grant proposal to expand the project to the Fund for Instructional Improvement of the California Community Colleges. The project was funded at $35,000 for 1994-95, with possibility of a second year of funding.

The new project: Peer-Assisted Learning Outside the Classroom, known on campus as Beacon PAL, continues the project in math and science and expands it to new disciplines: economics, accounting and anthropology. In addition, the project pilots the program at our sister college, Sacramento City College. The project has been transferred from the Research Office to the Instruction Office to facilitate institutionalization of the program. Considerable institutional resources have been allocated to the project.

It is anticipated that the program will be institutionalized by making it a part of the college's ongoing tutoring program, offering students the option of one-on-one tutoring or group tutoring. The training program for the Learning Assistants was used to develop a course in group tutoring, which is now offered on a regular basis, and which will provide the crucial training component. The Beacon faculty plan to explore the possibility of providing the option honors credit to Learning Assistants in lieu of part of their pay; this would make the project less costly to institutionalize.

Because of the stunning success of the project, particularly with minority students and re-entry women, the program is likely to become a part of the college's Student Equity Program, to which the college has made a major commitment.

Appendix

Evaluation Of Beacon Outcomes Spring 1993

The Beacon Project for this semester focused upon eight different courses. Within each course, there were students who received tutoring and those who did not. The assignment to treatment was not done randomly. Rather, students self-selected in a positive manner their treatment, or, in the case of one class, believed it to be the better of two choices. The results by course are presented in Table 1.

Table 1. Grade Outcomes For Students Who Received Tutoring And Those Who Did Not Receive Tutoring.

Course	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Biology 16						
Tutored (n=8)	25.0	62.5	12.5	0.0	3.13	100.0
Not Tutored (n=82)	26.8	20.7	25.6	26.8	2.72	73.1
Chemistry 1A						
Tutored (n=25)	32.0	36.0	24.0	8.0	2.96	92.0
Not Tutored (n=107)	22.4	18.7	10.3	48.6	2.36	51.4
Chemistry 2A						
Tutored (n=91)	49.5	38.5	6.6	5.5	3.34	94.5
Not Tutored (n=22)	27.3	18.2	4.5	50.0	3.25	50.0
Chemistry 2B						
Tutored (n=12)	33.3	50.0	16.7	0.0	3.17	100.0
Not Tutored (n=23)	30.4	17.4	8.7	43.5	3.14	56.5
Chemistry 3						
Tutored (n=21)	38.1	28.6	23.8	9.5	3.05	90.5
Not Tutored (n=11)	9.1	18.2	9.1	63.6	3.0	36.4
Math 9A						
Tutored (n=6)	0.0	50.0	33.3	16.7	2.33	83.3
Not Tutored (n=29)	3.4	17.2	6.9	72.4	1.53	27.6
Math 51						
Tutored (n=7)	14.3	28.6	14.3	42.9	2.0	57.1
Not Tutored (n=28)	10.7	17.9	7.1	64.3	2.67	35.7
Math 53						
Tutored (n=5)	20.0	40.0	40.0	0.0	2.80	100.0
Not Tutored (n=26)	3.8	3.8	26.9	65.4	1.77	34.6

Beacon Outcomes - Fall 1993

Grade Outcomes For Beacon and Non-Beacon Students

Course	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Biology 5 (instr. 1)						
Beacon (n=19)	52.6	21.1	5.3	21.1	3.00	78.9
Non-Beacon (n=13)	7.7	7.7	38.5	46.2	1.80	53.8
Chemistry 1A (instr. 2)						
Beacon (n=21)	42.9	19.0	33.3	4.8	3.1	95.2
Non-Beacon (n=26)	15.4	23.1	19.2	42.3	2.37	57.7
Chemistry 1A(instr 3)						
Beacon (n=12)	8.3	33.3	25.0	33.3	2.30	66.7
Non-Beacon (n=2)	0.0	0.0	0.0	100.00	none	0.0
Chemistry 1B (instr. 4)						
Beacon (n=7)	0.0	42.9	57.1	0.0	2.43	100.0
Non-Beacon (n=16)	6.3	37.5	25.0	31.3	2.31	68.8
Chemistry 2B (instr. 5)						
Beacon (n=54)	46.3	35.2	13.0	5.6	3.26	94.4
Non-Beacon (n=14)	0.0	21.4	7.1	71.4	2.00	28.6
Chem 3 (instr.6)						
Beacon (n=35)	34.3	20.0	2.9	42.9	3.17	57.1
Non-Beacon (n=54)	13.0	20.4	18.5	48.1	2.77	51.9
Chem 3 (instr. 7)						
Beacon (n=30)	53.3	20.0	20.0	6.7	3.28	93.3
Non-Beacon (n=20)	25.0	5.0	10.0	60.0	1.81	40.0
Math 9A (instr. 8)						
Beacon (n=15)	0.0	40.0	13.3	46.7	1.92	53.3
Non-Beacon (n=25)	16.0	24.0	12.0	48.0	2.53	52.0
Math 29 (instr. 9)						
Beacon (n=20)	10.0	20.0	25.0	45.0	1.94	55.0
Non-Beacon (n=14)	7.1	14.3	14.3	64.3	1.88	35.7

Beacon Outcomes - Fall 1993 continued

Course	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Math 29 (instr. 10)						
Beacon (n=12)	8.3	25.0	50.0	16.7	2.36	83.3
Non-Beacon (n=20)	25.0	15.0	5.0	55.0	2.83	45.0
Math 51 (instr 11)						
Beacon (n=3)	0.0	0.0	66.7	33.3	2.00	66.7
Non-Beacon (n=34)	11.8	20.6	11.8	55.9	2.50	44.1
Math 53 (instr. 12)						
Beacon (n=9)	0.0	22.2	33.3	44.4	2.17	55.6
Non-Beacon (n=27)	3.7	14.8	18.5	63.0	1.93	37.0
Math 53 (instr.13)						
Beacon (n=6)	50.0	16.7	16.7	16.7	3.40	83.3
Non-Beacon (n=35)	17.1	20.0	34.3	28.6	2.65	71.4
Overall						
Beacon (n=243)	32.5	26.3	19.8	21.4	2.89	78.6
Non-Beacon (n=300)	13.0	19.0	18.0	50.0	2.38	50.0

The course success rate (percent A+B+C+Cr. divided by all grade notations including W) is higher for students electing the Beacon experience than for students not doing so. This is true in every course and with every instructor. In 10 instances, the GPA is also higher for the Beacon students. (Note: GPA does not include class drops).

Overall, the 243 Beacon students (all courses) had a success rate of 78.6% compared with 50% for the 300 non-Beacon students. Even while students engaged in Beacon self-selection and instructors varied in their approaches, the evidence strongly suggests that Beacon improves student performance over no such experience.

Overall Beacon Outcomes - Fall 1993

Grade Outcomes For Beacon and Non-Beacon Students by Gender & Ethnicity

Gender	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Males						
Beacon (n=112)	22.3	23.2	22.3	32.1	2.58	67.9
Non-Beacon (n=160)	14.4	15.0	21.3	49.4	2.40	50.6
Females						
Beacon (n=131)	41.2	29.0	17.6	12.2	3.11	87.8
Non-Beacon (n=140)	11.4	23.6	14.4	50.7	2.36	49.3

Ethnicity	% A	% B	% C	% D+F+WT	GPA	% Success Rate
African American						
Beacon (n=7)	28.6	28.6	0.0	42.9	3.00	57.1
Non-Beacon (n=16)	0.0	18.8	18.8	62.5	2.29	37.5
Hispanic						
Beacon (n=27)	25.9	25.9	29.6	18.5	2.64	81.5
Non-Beacon (n=23)	4.3	13.0	13.0	69.6	1.47	30.4
Asian						
Beacon (n=29)	41.4	20.7	13.8	24.1	2.77	75.9
Non-Beacon (n=40)	20.0	20.0	17.5	42.5	2.77	57.5
Other Non-white						
Beacon (n=22)	27.3	27.3	22.7	22.7	2.79	77.3
Non-Beacon (n=32)	0.0	9.4	25.0	65.6	1.58	34.4
White						
Beacon (n=158)	32.9	27.2	19.6	20.3	2.90	79.7
Non-Beacon (n=189)	15.9	21.2	17.5	45.5	2.54	54.5

The overall math and science performance of males, females, and various ethnic groupings for Fall, 1993 is clearly higher for students electing the Beacon experience. Among all non-white, Beacon students (n = 85) the success rate (A+B+C+CR.) was 76.5% compared with 42.3% for non-Beacon, non-white students (n = 111).

Irrespective of Beacon course, specific instructor, student gender, or ethnicity, the evidence is compelling; that group subject matter tutoring by experienced student aides, lasting a full semester, substantially helps currently enrolled students to perform at academically higher levels than their counterparts who receive no such tutoring.

AMERICAN RIVER COLLEGE
Student Catalyst Program
Peer Assisted Learning

Beacon Outcomes - Spring 1994

Course	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Biology 5 (instr. 1)						
Beacon (n=16)	50.0	31.3	12.5	6.3	3.25	93.8
Non-Beacon (n=11)	18.2	36.4	9.1	36.4	2.50	63.6
Chemistry 1A (instr. 2)						
Beacon (n=10)	30.0	20.0	30.0	20.0	2.78	80.0
Non-Beacon (n=11)	9.1	9.1	9.1	72.7	2.50	27.3
Chemistry 1A(instr 3)						
Beacon (n=17)	23.5	52.9	11.8	11.8	2.82	88.2
Non-Beacon (n=16)	12.5	18.5	37.5	31.3	2.23	68.8
Chemistry 1A(instr 4)						
Beacon (n=16)	37.5	31.3	31.3	0.0	3.06	100.0
Non-Beacon (n=75)	20.0	16.0	37.3	26.7	2.62	73.3
Chemistry 1A(instr 5)						
Beacon (n=7)	14.3	14.3	14.3	57.1	1.80	42.9
Non-Beacon (n=26)	19.2	11.5	30.8	38.5	2.47	61.5
Chemistry 1B (instr. 6)						
Beacon (n=20)	20.0	55.0	25.0	0.0	2.95	100.0
Non-Beacon (n=38)	13.2	39.5	34.2	13.2	2.63	86.8
Chemistry 1B (instr. 7)						
Beacon (n=11)	36.4	36.4	18.2	9.1	3.36	90.9
Non-Beacon (n=43)	11.6	18.6	44.2	25.6	2.33	74.4
Chem 2A (instr.8)						
Beacon (n=51)	45.1	25.5	17.6	11.8	3.17	88.2
Non-Beacon (n=76)	26.3	25.0	22.4	26.3	2.95	73.7
Chem 2B (instr. 9)						
Beacon (n=12)	58.3	25.0	16.7	0.0	3.42	100.0
Non-Beacon (n=56)	19.6	30.4	12.5	37.5	2.97	62.5

Beacon Outcomes - Spring 1994 continued

Course	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Math 9A (instr. 10)						
Beacon (n=20)	20.0	25.0	35.0	20.0	2.71	80.0
Non-Beacon (n=16)	6.3	25.0	31.3	37.5	2.15	62.5
Math 29 (instr. 11)						
Beacon (n=14)	7.1	35.7	14.3	42.9	3.00	57.1
Non-Beacon (n=10)	0.0	10.0	0.0	90.0	1.00	10.0
Math 29 (instr. 12)						
Beacon (n=18)	33.3	16.7	27.8	22.2	2.65	77.8
Non-Beacon (n=20)	5.0	25.0	15.0	55.0	2.25	45.0
Math 53 (instr 13)						
Beacon (n=10)	10.0	20.0	40.0	30.0	2.22	70.0
Non-Beacon (n=12)	0.0	8.3	33.3	58.3	1.38	41.7
Math 53 (instr. 14)						
Beacon (n=7)	14.3	0.0	71.4	14.3	2.00	85.7
Non-Beacon (n=33)	15.2	12.1	24.2	48.5	2.08	51.5
Math 53 (instr.15)						
Beacon (n=8)	25.0	12.5	25.0	37.5	2.29	62.5
Non-Beacon (n=23)	39.1	8.7	17.4	34.8	3.33	62.2
Overall						
Beacon (n=237)	31.6	29.1	23.6	15.6	2.86	84.4
Non-Beacon (n=466)	17.6	21.2	26.6	34.5	2.56	65.5

The course success rate (percent A+B+C+Cr. divided by all grade notations including W) is higher for students electing the Beacon experience than for students not doing so. This is true in all courses and instructors except one. In 13 of 15 instances, the GPA is also higher for the Beacon students. (Note: GPA does not include withdrawals.) It should be emphasized that of 137 total withdrawal notations (WT) for all sections, only 12.41% (n=17) were Beacon students compared with 87.59% (n=120) for non-Beacon Students.

Overall, the 237 Beacon students (all courses) had a success rate of 84.4% compared with 65.5% for the 466 non-Beacon students. Even while students engaged in Beacon self-selection and instructors varied in their approaches, the evidence strongly suggests that Beacon improves student performance over no such experience.

AMERICAN RIVER COLLEGE
Student Catalyst Program
Peer Assisted Learning

Beacon Outcomes - Spring 1994

Gender	% A	% B	% C	% D+F+WT	GPA	% Success Rate
Males						
Beacon (n=115)	25.2	31.3	20.9	22.6		77.4
Non-Beacon (n=262)	18.7	18.7	26.0	36.6		63.4
Females						
Beacon (n=122)	37.7	27.0	26.2	9.0		91.0
Non-Beacon (n=204)	16.2	24.5	27.5	31.9		68.1

Ethnicity	% A	% B	% C	% D+F+WT	GPA	% Success Rate
African American						
Beacon (n=5)	0.0	0.0	40.0	60.0		40.0
Non-Beacon (n=20)	20.0	0.0	25.0	55.0		45.0
Hispanic						
Beacon (n=19)	10.5	31.6	31.6	26.3		73.7
Non-Beacon (n=28)	3.6	10.7	35.7	50.0		50.0
Asian						
Beacon (n=40)	20.0	35.0	32.5	12.5		87.5
Non-Beacon (n=107)	11.2	24.3	28.0	36.4		63.6
Other Non-white						
Beacon (n=11)	27.3	18.2	36.4	18.2		81.8
Non-Beacon (n=15)	13.3	20.0	0.0	66.7		33.3
White						
Beacon (n=162)	38.3	29.0	19.1	13.6		86.4
Non-Beacon (n=296)	21.3	22.6	26.7	29.4		70.6

The overall math and science performance of males, females, and various ethnic groupings for Fall, 1993 is clearly higher for students electing the Beacon experience. Among all non-white, Beacon students (n = 75) the success rate (A+B+C+CR.) was 80.0% compared with 56.5% for non-Beacon, non-white students (n = 170).

Irrespective of Beacon course, specific instructor, student gender, or ethnicity, the evidence is compelling; that group subject matter tutoring by experienced student aides, lasting a full semester, substantially helps currently enrolled students to perform at academically higher levels than their counterparts who receive no such tutoring.

Beacon Project Results: Three Semesters

For each course and for each instructor, the final grades of Beacon and non-Beacon students were analyzed for three semesters (the first semester was omitted because it was a trial run). In nearly all courses and for all instructors, the Beacon students outperformed the non-Beacon students. The data of these semester summary reports may be found in the Research Office. What follows is the compilation of all data from three semesters organized by discipline into 2 x 2 tables.

DATA TABLES[1]

All Biology (Biology 5, 16)

	n	Percent Not Successful (DFW)	Percent Successful (ABC)
Beacon	43	12	88
Non-Beacon	106	30	70

Difference in Beacon Favor = 18%

All Chemistry (Chemistry 1A, 1B, 2A, 2B, 3)

	n	Percent Not Successful (DFW)	Percent Successful (ABC)
Beacon	426	11	89
Non-Beacon	662	37	63

Difference in Beacon Favor = 26%

All Math (Math 9A, 29, 51, 53)

	n	Percent Not Successful (DFW)	Percent Successful (ABC)
Beacon	160	31	69
Non-Beacon	352	54	46

Difference in Beacon Favor = 23%

[1] Using chi square analysis, all the differences between Beacon and Non-Beacon student success rates were highly significant in all four tables.

Data Tables (continued)

All Biology, Chemistry, Math)

	n	Percent Not Successful (DFW)	Percent Successful (ABC)
Beacon	629	16	84
Non-Beacon	1,120	42	58

Difference in Beacon Favor = 26%

While students elected to participate rather than be randomly assigned to such an experience, testimonials from students, student aides, and faculty have suggested that these Beacon students would have had much more difficulty with the course had there not been such assistance. In other words, the peer assisted learning "saved them" from dropping the course or even receiving a failing grade.

Thus, the composite data reveal that peer assisted learning is a powerful tool and such results offer considerable support for the validation of collaborative learning.

The Staff

American River College • Summer 1992

ARC Chosen One of Eight "Beacon" Colleges

American River College is one of only eight community colleges in the United States—and the only one in California— to be selected as a 1992 Beacon College by the American Association of Community and Junior Colleges .

"Being selected as a Beacon College is a remarkable achievement," Randall says. "It places us among the leaders of community college educational programs at the national level."

The award includes a grant for $48,000 from the W.K. Kellogg Foundation.

To be awarded this distinction an applicant college must submit a proposal to address the recommendations in the national education report, *Building Communities*. The recommendations include increasing student involvement in the life of the college and enhancing learning in a collaborative setting.

Beacon colleges must involve a group of associate colleges in their project; 10 northern California community colleges have already agreed to become a part of the process.

Student Catalysts

The proposal was developed based on ideas generated this year by the ARC Student Involvement Task Force and was written by Nancy Reitz, chemistry instructor and student involvement coordinator, and Sharon McCuen, dean of research and development. Both will be implementing the project as co-directors.

The two-year project will establish a Student Catalyst Program. This will involve a cadre of trained student assistants who will work with faculty in selected math and science classes. These learning assistants will facilitate small groups of four to six students from the selected courses in supplemental instruction. Students must make a full semester commitment to the project.

Learning assistants will be paid for their involvement in the project; students in the study groups will receive academic credit.

Seven faculty members will be selected from the biology, chemistry and math areas to begin the pilot project in the fall. Mimi Cudzilo (counseling) will develop the training component for the assistants.

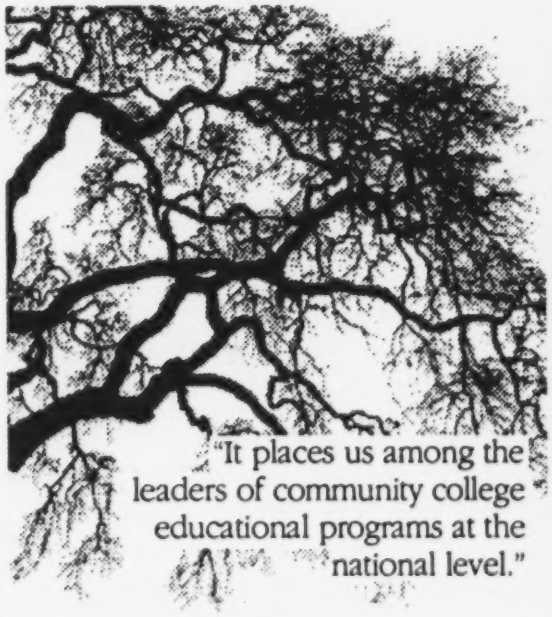
"If the project is successful—and we have every reason to believe it will be—it can be expanded to other disciplines," Reitz says.

Both Reitz and McCuen emphasize that the project will complement existing tutoring programs on campus.

More Involvement

The project is based on research conducted by Uri Treisman at UC Berkeley with minority students in calculus classes. Treisman found that student success is strongly linked to collaborative activities for studying and practicing course-related material outside the classroom. In this way classroom learning is integrated into other aspects of student life.

"In our project we expect students to become more involved in their learning by providing a formal structure for group interaction," Reitz said.



"It places us among the leaders of community college educational programs at the national level."

The learning assistants will form close relationships with both the faculty and their peers in the small groups. The students in the small groups will have a semester-long support group for studying and a forum for exploring ideas, Reitz says.

"We plan to measure student success in terms of grades and retention, as compared to control groups," she continues. "We will also look at the affective outcomes—that is, have student attitudes changed toward their ability to succeed, the learning process and their educational goals as a result of this experience."

"Bridges of communication and support will be established between the students, their learning assistants and faculty," McCuen adds. "We hope this will lead to greater community in the academic environment." ❑

The Staff

Fall 1992 • American River College

Student Catalysts Off To Good Start

What has happened since ARC became one of eight community colleges in the U.S. selected as a 1992 Beacon College by the American Association of Community and Junior Colleges?

A lot, according to Beacon College project coordinators Nancy Reitz and Sharon McCuen.

The Beacon College designation was bestowed because of ARC's proposal for a pilot project to increase student involvement in the life of the college and enhance learning in a collaborative setting.

That project, the Student Catalyst Program, not only won the Beacon honor for the college but a grant for $48,000 from the W.K. Kellogg Foundation.

Peer-Assisted Group Learning

The ARC project is a pilot program in certain math and science "sequence" classes that have high dropout rates. The project targets, but is not limited to, minority students who are underrepresented in these subject areas.

An outcome of the ARC Student Involvement Task Force, the project involves a team of 24 student learning assistants who have successfully completed the targeted course and who work with eight project faculty members. The learning assistants each meet with a group of four to six students from the class for three hours a week throughout the semester. Students in the study groups work on class assignments and supplemental materials. The learning assistants meet weekly with the class instructor to discuss the progress of the groups and receive suggestions.

The learning assistants undergo extensive training in small-group peer-assisted learning techniques at the beginning of the semester. They also meet during the semester to share problems and successes. They are paid for time spent in training, the small group sessions and meetings with faculty.

Student learning assistants like Asa Clark (at board) help fellow students in science and math courses as part of the innovative Student Catalyst Program that has won ARC a Beacon College designation.

Truly Innovative

In August, Reitz and McCuen traveled to Washington, D.C., to meet with the other Beacon Colleges from across the nation. ARC is one of two from California. Both Reitz and McCuen were surprised that many of the "innovative" programs that won Beacon status are already in place at ARC.

"Our Student Catalyst Program was certainly the most experimental of the lot," McCuen says, "and I think also the most student oriented."

Planning—and Learning

Seven faculty members from the biology, chemistry and math areas met over the summer to develop the project that began this fall. Mimi Cudzilo (counseling) and Kathie Read (LRC) worked to develop the training component for the assistants. The project complements existing tutoring programs on campus.

"The training that the learning assistants received is an extension of what Kathie Read has done with group tutoring at the Learning Resource Center," Reitz explains.

Reitz says that in the first six weeks of the program, all staff involved learned a great deal.

"We assumed that students would be motivated to stay in the program when they saw the results, that their grades would improve," she says. "But some problems have surfaced because students must commit to three

(continued on page 4)

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Student Catalysts

(continued from page 1)

hours a week for the whole semester—on top of classroom time, job and family time," says Reitz.

McCuen points out that this style of group learning is more common at four-year schools, where most students are full-time and spend more time on campus.

"When students are on campus for four years or more, there isn't as great a turnover of learning assistants. Our tutors are often fresh from the same course they are helping others with."

More Involvement

The project is based on research conducted by Uri Treisman at UC Berkeley with minority students in calculus classes. Treisman, who will be speaking on campus this spring, found that student success is strongly linked to collaborative activities for studying and practicing course-related material outside the classroom. In this way classroom learning is integrated into other aspects of student life.

"In our project we expect students to become more involved in their learning by providing a formal structure for group interaction," Reitz says.

The learning assistants will form close relationships with both the faculty and their peers in the small groups. The students in the small groups will have a semester-long support group for studying and a forum for exploring ideas.

Research Followup Planned

"We plan to measure student success in terms of grades and retention, as compared to control groups," Reitz says.. "We will also look at the affective outcomes—that is, determine whether student attitudes changed toward their ability to succeed, the learning process and their educational goals as a result of this experience."

Dick Rasor (psychology) and Jim Barr (research) are providing the research component, Reitz says.

"A valid test/selection device is key," she points out. "We need a pre-test and a post-test so that we can tell whether the project is actually making a difference in the students' work. We also need a consistent way of selecting students over time so that differences in the groups won't skew the results."

Some preliminary observations on the project by Luther Nolen and Karen Pesis were published in the October 1992 issue of the *TRC News*.

Project faculty are Luther Nolen and Karen Pesis (Chemical Calculations); Nancy Reitz and Rina Roy (General Chemistry); Alyce Fiedler and George Bleekman (General Biology); Sandy McKaig and Paul Van Erden (Elementary Algebra) and Jim Eckerman (Calculus). They are members of the Beacon Project Advisory Committee, along with Reitz, McCuen, Cudzilo, Read and Dean of Instruction Suzie Nissen.

"We've had wonderful support from faculty," says McCuen. "They've put in many more hours than could have been expected." ❑

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The Staff

Spring 1993 • American River College

Students Learn to Extend Their Reach

The results are in and they look good, says Nancy Reitz (chemistry), faculty co-director for the Student Catalyst Program, first highlighted in the fall issue of the *Staff*.

The program—designed to increase students' involvement in the life of the college and to enhance their learning in a collaborative setting—has been implemented in math, chemistry and biology.

National Recognition

Learning assistants each meet with a group of four to six students for three hours a week throughout the semester. Students in the study groups work on class assignments and supplemental materials. The learning assistants also meet weekly with the class instructor to discuss the progress of the groups and receive suggestions.

The ARC program already has gained national recognition. On the strength of the college's efforts, nationally recognized scholar and education expert Uri Treisman visited the campus in February (photo, page 6). He met with Student Catalyst Program participants and with faculty from associate colleges who are participants in the Beacon College project which funds the program .

Strong Bonds Formed

Each department approached the project in different ways, Reitz points out, based on its particular needs.

"For example, the learning assistants in chemistry were fairly advanced students who had taken a number of chemistry classes," she explains. "The biology and math LAs tended to be students who had just taken one class in that discipline."

In most cases, the difference in level did not affect the learning assistants' ability to work effectively with students, Reitz says.

All learning assistants are asked to keep careful attendance records of their study groups and a journal on how they approached the sessions and what results they have achieved. The journals are collected and read monthly, with feedback given by the faculty who trained the students in group tutoring techniques.

Responses from both learning assistants and students in the study groups indicate that the process has formed bonds between students and teachers, and among students, and that students have felt more "connected" to the institution. In addition, faculty have reported dramatic improvements in the grades of some of those in the study groups.

"Chemistry students consistently said they didn't think they would have made it through the semester without the sessions," Reitz says.

The Student Catalyst Program helps students learn how to learn, and to take a more active role in the educational process itself. In other words, to rephrase Robert Browning, a student's reach should exceed his grasp, or what's a college for?

Learning from Experience

One pleasant surprise was that some students established study groups in their other classes, ones that were not part of the Catalyst Program; some of these groups planned to get together even after the course was over. This, Reitz points out, is the kind of student involvement the college wants.

The Student Catalyst Program is an evolving one, adds Sharon McCuen, dean of research and development. The college is learning from experience how best to shape the process.

"The results of the focus groups we had last fall were used to make some significant modifications in the project this spring," McCuen explains. "These included changes in the training, starting the study group sessions earlier in the semester, paying LAs for some preparation time,

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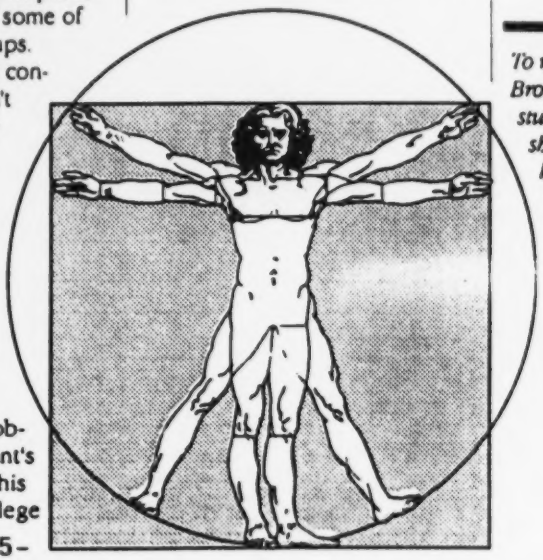

To rephrase Browning, a student's reach should exceed his grasp, or what's a college for?

Learn

(Continued from page 1)

and setting up a new system for assigning places for study groups to meet."

The only problem reported by some faculty was the heavy time commitment, particularly at first. However, Reitz points out, "Once the instructor has developed a process, the learning assistants can intercept a lot of questions, and that can actually help the instructor."

Dr. Uri Treisman (right) talks with Sharon McCuen (left) and Nancy Reitz, coordinators of the Student Catalyst Program. Treisman's visit to the campus was indicative of the program's high visibility.

Indeed, a survey of faculty involved showed they felt strongly that the learning assistants proved helpful and brought tutored students to an improved level of course performance. McCuen says this is a particularly gratifying response, since the skill and motivational levels of students who chose to receive tutoring were diverse.

Learning assistants reported they had gained improved skills and knowledge about the subject matter, Reitz says. There was a clarification and validation of likes and dislikes regarding professional matters, such as career choices.

"Teaching others is an excellent way to sharpen your own knowledge of the subject," Reitz says. "The learning assistants reported they felt good about their contribution because they saw the tutoring made a difference in their students' academic progress."

McCuen points out that a controlled study, devised by Dick Rasor (psychology), allowed comparisons to be made between the tutored students and an equivalent group of students who did not go through the tutoring process.

"What we found was that tutored students, as a group, reported lower high school grade-point averages than the non-tutored. That means they were in some ways behind the other students. Yet, the tutored group performed as well as the non-tutored group overall, and in some courses, the tutored group outperformed the non-tutored," she says. ❑

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Continuing Its Mission: The AACC Beacon Colleges Project

The Beacon College Project is directed by the American Association of Community Colleges and is supported by the W.K. Kellogg Foundation. The project is based on a 1988 report of the Commission on the Future of Community Colleges, Building Communities: A Vision for a New Century. The report encouraged community colleges to develop programs and services that would "build communities."

There are a total of 26 Beacon Colleges and each has developed a consortium with at least five colleges, known as Associate Colleges. Divided into three classes, the Class of 1992 has already completed their projects. Class of 1993 and Class of 1994 are currently in progress. All Beacon Colleges offer innovation in their approaches to such important issues as assessment, cultural diversity, workplace literacy, faculty development and curriculum development.

In celebration of the 1993 Annual AACC Convention and its theme, Building Communities, this special report is dedicated to spotlighting some of the exemplary programs and services offered by the Beacon Colleges.

Lessons About Learning

Student Catalysts at American River College Strive to Build Community

SACRAMENTO, CA — First semester results of American River College's Beacon project show that community building is occurring in many ways. Strong working relationships between students, between students and faculty, and between faculty members are being reported across the project. In addition to the connections, there are are documented improvements in student success.

College President Queen Randall describes the project, as "teaching us important lessons about student learning, both inside and outside the classroom."

The Student Catalyst Program: Peer Assisted Learning is aimed at increasing student involvement, and performance in selected math, chemistry and biology courses that traditionally have high drop-out rates. Trained student learning assistants, who have successfully completed these classes, work with small study groups outside of class. The students in the study groups make a commitment of three hours a week for the semester. The groups work on course work and supplemental materials.

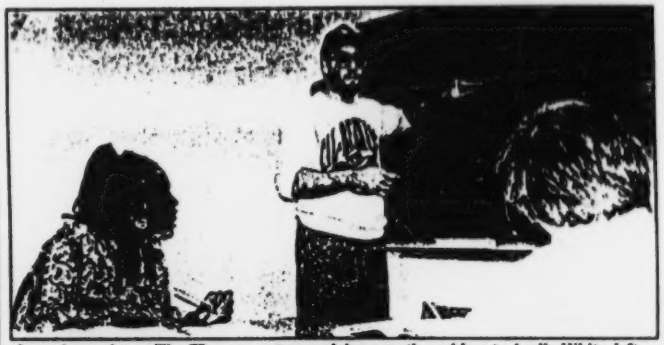
Reinforcing the "team" concept, the project is co-directed by chemistry faculty member Nancy Reitz and Dean of Research and Development Sharon McCuen.

The project is based on the research of noted educator Uri Treisman, who came to American River College in February to meet with the Beacon project staff and staff from the 10 associate colleges in Northern California. Treisman's work with peer assisted learning was the inspiration for the student catalyst program.

Treisman studied Black and Hispanic students at the University of California, Berkeley, who had a high failure rate in math and science. The results showed that the reasons for the failure were not what the faculty had hypothesized: lack of motivation, economic background or lack of preparation, but that, unlike Asian students who worked together on homework and discussed school work out of classes, the Black and Hispanic students "treated school like a job" and did not relate it to other activities or relationships outside the classroom.

By developing his Mathematics Workshop Model of group work, or cooperative learning, and using supplemental materials, Treisman has dramatically increased minority student success at both Berkeley and the University of Texas at Austin. He currently holds appointments at both institutions.

Reitz and McCuen report that Treisman's



Learning assistant Tim Thayer, center, explains a math problem to Arelia White, left, and Brenda Sammons, right, during a small-group tutoring session, part of the American River College Student Catalyst Program.

day with the Beacon project staff provided greater insight into the relevance of his work to the project along with suggestions for improvement.

The American River College project includes 24 study groups led by trained Learning Assistants. The groups meet three hours a week. The project targets, but is not limited to, under-represented students.

The learning assistants are paid for the three hours a week with their groups, one hour a week to meet with their faculty member and two hours a week for preparation time. They are also paid for the training that occurred at the beginning of the semester and for the monthly group meetings where they receive additional training and discuss problems and share success.

The project directors reported that focus groups conducted near the end of the first semester provided evidence that the project objectives are being met. The major objective of the project is to "increase the involvement of commuter students in the life of then college." Responses from both the learning assistants and the students in the study groups indicate that bonds were formed between students and teachers and among students. The students also reported they felt "more connected" to the institution.

"As we hoped, the increase in involvement was accompanied by improved student success," said McCuen. Some faculty reported dramatic improvement in student grades. And chemistry students consistently said they didn't think they would have made it through the semester without the study groups, she said.

An analysis of grades at the completion of the semester corroborated that success. While the students in the study groups had reported lower high school GPAs than the students who were not in the study groups, the study group students performed as well as the non-study group students overall (i.e. no statistically significant differences in grade distributions of combined courses.) In some courses, the students in the study groups outperformed the students who were not in the study groups.

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The News
Community College League of California
January-February1994

Unique Peer-Assisted Learning Program a Success

A new study proves that ARC's Student Catalyst Program, now in its second year, enhances learning significantly for students in math, chemistry and biology.

The program--possibly the first of its kind in the nation--involves student learning assistants who each meet with a group of four to six students for three hours a week throughout the semester. Students in the study groups work on class assignments and supplemental materials.

The learning assistants also meet weekly with the class instructor to discuss the progress of the groups and receive suggestions. The assistants go through an intensive training program as well.

Small-group tutoring was targeted at students in classes with a high dropout rate. The recent study shows that when a success rate was charted (with "success" defined as a grade of "C" or better), students who were tutored did significantly better than those who were not, according to Sharon McCuen, research dean. (Students determined whether they wished to have tutoring.)

Students Receiving Passing Grades (%)

Course	Tutored	Non-Tutored
Biology 16	100	73.1
Chemistry 1A	92	51.4
Chemistry 2A	94.5	50.0
Chemistry2B	100	56.5
Chemistry 3	90.5	36.5
Math 9A	83	27.6
Math 51	57.1	35.7
Math 53	100	34.6

The learning assistants have formed close relationships with both the faculty and their peers in the small groups, according to Nancy Reitz, chemistry instructor and coordinator of the program along with McCuen. The students in the small groups have developed a semester-long support group for studying and a forum for exploring ideas.

Learning assistant Tim Thayer (center) explains a math problem to Arella White (left) and Brenda Sammons (right) during a small-group tutoring session, part of the American River College Student Catalyst Program.

Funded by a grant from the Kellogg Foundation, the program already has gained national recognition and led to ARC's designation as a Beacon College by the American Association of Community Colleges. McCuen says that to her knowledge it is the only community college program of its kind in the country.

The project is based on research conducted by Uri Treisman at UC Berkeley with minority students in calculus classes. Treisman, keynote speaker at the League's 1990 Trustee Conference, visited the campus last spring. He has found that student success is strongly linked to collaborative activities for studying and practicing course-related material outside the classroom. In this way classroom learning is integrated into other aspects of student life. ✦

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BEACON COLLEGE PROJECT DIRECTOR SURVEY

The following information will help us in our reporting to the Kellogg Foundation about the outcomes to date of our overall Beacon College Project. Your help is greatly appreciated.

INSTITUTION American River College

NAME Sharon McCuen and Nancy Reitz

1. Brief (2-5 words) description of the "community" specifically targeted by your project (e.g., at-risk fifth graders; state community college system):

   Students in high attrition math and science classes

2. Most significant outcome(s) of your Beacon project:

   Increased success of students/community building of students in collaborative groups and Learning Assistants

3. Unanticipated spin-off(s) from your Beacon College project:

   Student feedback to faculty/growth of Learning Assistants and their becoming interested in college teaching/improved communication between faculty from different disciplines

4. Are your Beacon project activities continuing beyond the grant period?

   X yes ____ no

   a. Approximate amount of funding, if known $35,000 grant plus $15,000 institutional support

   b. Source(s) of funds:

      California Community Colleges
      American River College
      Sacramento City College

5. Overall assessment of the effectiveness of this grant to adapt, implement, or replicate your "beacon" idea:

   1 2 3 4 (5)
   ineffective highly effective

6. Audience served (check all that apply):

   ____ children - preschool
   ____ children - elementary
   ____ youth - middle schools
   ____ youth - high schools
   X college students
   X college faculty
   ____ college administrators
   ____ adults - employed workers (not college)
   ____ adults - unemployed workers
   ____ community at large
   ____ other - please identify: _____

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7. Approximate number served or affected: Individuals 1,110
   Institutions 11

8. Approximate amount of funds leveraged by the grant: $35,000 second grant plus $30,000 institutional support

9. Would your institution have initiated Associate College-type activities without the Beacon grant?
   ___ yes X no

10. Assessment of Associate College approach:

   a. Approximate number of meetings with the Beacon and all Associate Colleges as a group during the 2-year grant period:
      face-to-face 3
      via telecommunications 0

   b. Average number of personal contacts between Beacon and an individual Associate College:
      11

   c. Was the number of Associate Colleges in your Beacon consortium appropriate?
      X yes ___ no

      If not, what were the drawbacks or limitations?

   d. If an Associate College dropped out, what was the reason?
      n/a
      ___ insufficient commitment by institution
      ___ insufficient commitment by AC project coordinator
      ___ key staff left
      ___ financial problems
      ___ geographic distance
      ___ other (_____)

   e. What was your best communication mechanism for maintaining Associate College enthusiasm or effectiveness?
      Half day/full day meetings especially the one with Uri Triesman

   f. Overall assessment of the Associate College performance:

      1 2 3 4 5
      Ineffective — highly effective

   g. What would you do differently to enhance the Associate College performance?
      Made more effort to inform appropriate people (the "contact person" approach sometimes did not work well). Would have used "E" mail, if we had it.

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11. List final Beacon College project products (publications, videotapes, etc.) – include 1-2 sentence description, availability, and cost information.

TITLE	DESCRIPTON	AVAILABILITY	COST
Beacon Project:	American River College video	write ARC	$10
Beacon Project:	Annual Report 1992-93	write ARC	$ 3
Beacon Project:	Annual Report 1993-94	write ARC	$ 3

12. List Associate College products (publications, videotapes, etc.), if known:

TITLE	DESCRIPTON	AVAILABILITY	COST

none

13. List of Partners or affiliated colleges not listed in Beacon College Project Directory:

none

14. Other comments:

The grant was so small it did not allow for much release time for project director or other staff, even though there was considerable institutional support. The project thus took a toll on all who participated.

We feel the project was highly successful at ARC, and over half of our associate colleges are implementing it in one way or another. The bringing together of people to discuss the project was valuable and seeds were planted that may produce greater results down the road.

DATE 6/15/94

Statement of Omission

The following article was removed from the document to avoid copyright infringement:

Aguilar, J. "ARC tutoring program helps students help each other." The Sacramento Bee Final, May 31, 1994.